

Sustainable Water Management Initiative Technical Subcommittee Meeting Summary

October 12, 2010

Attendees

Committee Chairs: Anne Carroll (DCR), Jack Buckley (FWE), Martin Suuberg for Glenn Haas (DEP)

Committee Members: Ralph Abele (EPA), Sue Beede (Mass Rivers Alliance), Alison Bowden for Colin Apse (TNC), John Kastrinos (Haley & Aldrich), Kerry Mackin (Ipswich River Watershed Association), Cary Parsons (Woodard & Curran), Nigel Pickering (Charles River Watershed Association), Brian Waldron for Peter Weiskel (USGS); Brian Wick (Cape Cod Cranberry Growers' Association), Vicki Zoltay (ABT Assoc.)

Other Attendees: Kathy Baskin (EEA), John Clarkeson (EEA), Charlie Cooper (TRC), Rebecca Cutting (DEP), Jeff Davis (UMass Donahue Institute), Richard Friend (DEP), Linda Hutchins (DCR), Steve Kaiser (Assoc. of Cambridge Neighborhoods), Tom Lamonte (DEP), Duane LeVangie (DEP), Beth McCann (DEP), Steve Pearlman (Watershed Action Alliance), Jennifer Pederson (MWWA), John Pike (CLF), Tim Purinton (FWE), Vandana Rao (EEA), Heidi Ricci (MA Audubon), Todd Richards (FWE), Peter Shelley (CLF), Mark Tisa (FWE)

October 12 Meeting Objectives

- Continue discussions on safe yield/streamflow criteria methodologies
- Discuss integrated approach and potential components of streamflow criteria

Action Items resulting from today's meeting:

- Comments on the Draft Streamflow Criteria matrix will be accepted until October 22, 2010
- A workgroup shall be established to determine the information available about potential future water supplies and to develop a water supply metrics for establishing criteria and goals.

1. Welcome and Introductions

2. Streamflow Criteria - Review and response to comments on criteria matrix

Refer to the document presented to the Advisory Committee on 28 September at

http://www.mass.gov/Eocca/docs/eca/water/2010_Sep_28_ADV_Draft_Cat_and_Criteria.pdf

Anne Carroll presented the changes that have been made to the Draft Streamflow Criteria matrix. The matrix outlines the **Categories** and a summary of what each categorization indicates. It offers definition to what the current conditions mean, and what the practice of No Backsliding means. The matrix identifies where studies or increased monitoring would be required prior to further alteration.

Identifying Goals: The matrix offers a distinction between existing conditions and goals. It provides placeholders for certain tools (regulation as well as other tools), which could be used to improve conditions, thereby improve the categorization.

Discussion:

- Mass Rivers Alliance/Nature Conservancy offered a draft proposal for consideration- Sue Beede of Mass. Rivers Alliance gave a summary of a draft approach to developing safe yield as needed for Water Management permitting, and continuing work to develop streamflow criteria in the coming months. *Refer to document on SWM website at:*

http://www.mass.gov/Eoeea/docs/eea/water/2010_Oct_12_SettingGoalsTable_Beede.pdf

- At present the Committee needs to determine how to calculate **safe yield** (SY) and manage streamflow to protect environmental resources and future water supplies.
- SWMI process has shown that both low streamflows and **impervious cover** (IC) are key to protecting resources, but the Water Management Act (WMA) does not regulate IC
- To develop SY for WMA permitting that incorporates both streamflow and IC impacts would require SY number with a huge margin of safety given the uncertainty of IC, and could lead to denying WMA permits without discernible environmental benefit.
- Therefore –
 - The Committee could set a SY that does not incorporate IC,
 - Continue to develop the Integrated Water Resources Criteria matrix
 - Use Fish and Flow data, literature review and expert testimony to set ecological goals (after the election)
- This proposal would set just 3 goal classes for WMA permitting, then criteria can be expanded over time to address issues not regulation by the Water Management Act

Setting Goals		
We could use relationship between fluvial fish and depleted Aug. flow in Fish & Flow Study to define ecological goals for rivers and stream.		
Goal classes	Indicators	Example Ecological Criteria
1. Streams with cold Water Communities	Brook Trout	No more than *30% change in Brook Trout abundance
2. All Streams except those in 1 & 3	Relative Fluvial fish Abundance (RFFA)	No more than a *35% change in RFFA
3. Streams below major water uses	Relative Fluvial Fish Abundance	No more than a *65% change in RFFA
* Used as examples only, not a recommendation		

Matrix

- Concern with blurring the process for addressing low streamflow and IC, both must be addressed to achieve integrated water management
- Categories are good – but existing conditions are driving criteria (goals)
- Had the Committee agreed that existing conditions should be stated, but not drive goals?
- There should be no implicit acceptance of Categories 4 and 5
 - Suggestion that “no Backsliding Criteria” and Site Specific and/or Monitoring Requirements be moved to the Goals section of the matrix

Mass Rivers Alliance/Nature Conservancy draft proposal

- Concern about decoupling streamflow and impervious cover
 - At present there is no clear regulatory means to address IC. Possibilities include:
 - NPDES stormwater permits issued with WMA permits
 - Local zoning requirements
- What would happen in overlapping goal class areas?
 - Probably rely on site specific analyses of permit application, particularly in areas that are in areas with overlapping goal classes.
- What will the impacts be to municipalities and water suppliers
 - Will decoupling lead to cutting municipal permits in order to “get water back in the stream” in anticipation of addressing IC?

- Will WMA permits be cut as IC inevitably increases?
- What about economic development, could this process cap IC and thus cap economic development?
- Will municipalities be burdened with funding site specific analysis to support permit applications?

Use of over generalized data

- Criteria can and should be based on site-specific information, not general equations from the model
 - Suggestion that criteria framework should specify that individual stream data will be used rather than general modeling
 - Need stakeholder groups to set stream goals through a facilitated process in preparation for WMA permitting that would ID the right mix of species and uses for improvement
 - C Cooper requested Fish and Flow data to examine site specific fish abundance

Concerns about relying on the accelerated, preliminary USGS Fish and Flow study

- The accelerated Fish and flow study examined only two (widely recognized as important) variables, low-flows and impervious cover
- Could our understanding of what impacts stream health change as the study continues and more variables are added?
 - USGS response: additional variables will include land use, dams, stream buffers, phosphorus and nitrogen loading and sediment loading, reservoir impacts
 - The impacts to fluvial abundance will be examined, but GS also plans to examine impacts to a limited number of specific species
 - The final report is not due for at least a year
 - USGS expects fuller understanding of what causes impacts, and expects low streamflow and IC will remain the strongest explanatory variables.

Kanno Study, 2008

- This study was done in Connecticut examining water withdrawal impacts
 - It examined low-flow impacts on fluvial abundance, but looked only at withdrawal impacts
 - It is not comparable to the USGS Fish and Flow study because it did not include the land-use analysis done in the Fish and Flow Study

MWWA Draft approach for future water supply categories

Identification and protection of water supplies

- The Water Management Act charges the state with ensuring adequate quantity and quality of water supply and that is not
- Criteria cannot make water supplies less reliable – the Committee should establish a water supply metric that is analogous to the fish metric currently in the matrix

ACTION ITEM: A workgroup shall be established to determine the information available about potential future water supplies and to develop a water supply metrics for establishing criteria and goals.

3. **Safe Yield**

Refer to document on SWM website at:

http://www.mass.gov/Eoeea/docs/eea/water/2010_Oct_12_SY_Update.pdf

- Anne Carroll presented the updates that have been made to Safe Yield (SY) considerations
- Nigel Pickering (Charles River Watershed Assoc.) discussed a revised approach to the Environmental Protection Factor (EPF). CRWA and DCR have reviewed this approach and some aspects are now incorporated into the EPF incorporated into the SY updates
- EEA asks whether water returned to the basin should be counted in SY or whether Committee member would prefer to recommend site-specific analysis at the time of permitting
 - there was no clear response in the subsequent discussion
- Committee Chair asked if Committee feels progress has been made and SY can be taken to the Advisory Committee
 - Response was split,
 - some felt SY could go to Advisory Committee with some fairly minor alterations,
 - one member felt little progress had been made, as SY should not be an annualized number or at the major basin scale, must include seasonal variability, reservoir releases, infiltration and inflow, and waste returns must be considered at the sub-basin scale and as a mitigation option

Discussion:

- Is the Subcommittee looking at the seasonal aspect of SY?
 - It is incorporated through use of monthly numbers in the roll-up
- Is 30% Environmental Protection Factor (EPF) based on site specific or general modeling
 - Based on FWE general model curve and included only as a draft for discussion
- We have distinguished between the determination of safe yield (determined on a basin wide) scale, from streamflow categories which, based on a subwatershed scale, could be applied during allocation.
- A clarifying question regarding the definition of “safe yield of a source” in the **Water Management Act** was asked.
Response: The WMA recognizes safe yield in two contexts, one is basin wide and the other the yield at a specific water source. There is a distinction of scale in terms of application in the act. WMA regulations (310CMR 36.00) cite “source” as one of the 27 major river basins, and say DEP can choose to use smaller basin delineation.
- Continuing concern about seasonal SY –
 - SWMI should at least document monthly to protect drought low-flows
 - SY should be a seasonal concept, but August SY can give adequate streamflow protection
- Continuing concerns about releases from multi-year reservoirs, but it was pointed out that there are only 4 multi-year reservoirs, only 3 are large enough to have impact, 2 already have release requirements.
 - Reservoir release would be best managed through site-specific analysis

Chair: What steps remain to be taken to get us to support of safe yield?

- Seasonality may play a role: Please document monthly or seasonal safe yield, as that is the only way to address low flow periods in stream reaches

Conclusion: Much progress has been made. We are in a much better place than we were in a year ago.

4. Wrap-up and Next Steps

- Comments on the Draft Streamflow Criteria matrix will be accepted until October 22, 2010
- The Steering Committee will consider extending the November 3rd deadline for determining Safe Yield
- A workgroup shall be established to determine the information available about siting future water supplies and to develop a water supply metric for establishing criteria and goals.
- At the November meeting, the Technical Subcommittee will review an updated matrix that incorporates the comments received

5. **Upcoming Meetings:**

October 26, 2010 - Tuesday
Advisory Committee, 1:00 PM – 3:30 PM
100 Cambridge Street, Second Floor

November 9, 2010 - Tuesday
Technical Subcommittee, 10:00 AM - 1:00PM
100 Cambridge Street, Second Floor